



SAW Components

Data Sheet B7710





SAW Components

B7710

Low-Loss Filter for Mobile Communication

942,5 MHz

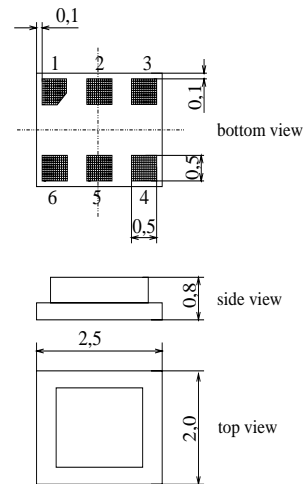
Data Sheet



Chip sized SAW package DCS6I

Features

- Low-loss RF filter for mobile telephone EGSM systems, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- No external matching required
- Ceramic package for **Surface Mounted Technology (SMT)**



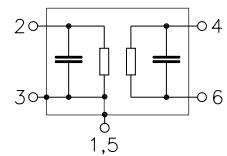
Terminals

- Ni, gold-plated

Dimensions in mm, approx. weight 0,014g

Pin configuration

- 2 Input, unbalanced
- 4, 6 Balanced outputs
- 1, 3, 5 To be grounded
- 1, 5 Case ground



| Type | Ordering code | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B7710 | B39941-B7710-C610 | C61157-A7-A76 | F61074-V8112-Z000 |

Electrostatic Sensitive Device (ESD)

Maximum ratings

| | | | | |
|----------------------------|-----------|-------------|-----|---|
| Operable temperature range | T | - 10 / + 80 | °C | |
| Storage temperature range | T_{stg} | - 40 / + 85 | °C | |
| DC voltage | V_{DC} | 5 | V | |
| ESD voltage | V_{ESD} | 200 | V | |
| Input power max. | | | | |
| @ 880 ... 915 MHz | P_{IN} | 13 | dBm | >2000 hrs at 85°C source and load impedance 50 Ω peak power of GSM signal, duty cycle 2 : 8, |
| @ 1710...1785 MHz | | 13 | | |
| @ 1850...1910 MHz | | 13 | | |
| elsewhere | | 0 | dBm | continuous wave |



SAW Components

B7710

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



Characteristics

Operating temperature range: $T = 25 \pm 2^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 50 \Omega$ (balanced)

| | | min. | typ. | max. | |
|---|-----------------|------|-------|------|-----|
| Center frequency | f_C | — | 942,5 | — | MHz |
| Maximum insertion attenuation | α_{\max} | | | | |
| 925,0 ... 960,0 | MHz | — | 3,0 | 3,3 | dB |
| Amplitude ripple (p-p) | $\Delta\alpha$ | | | | |
| 925,0 ... 960,0 | MHz | — | 1,1 | 1,4 | dB |
| VSWR | | | | | |
| 925,0 ... 960,0 | MHz | — | 1,7 | 2,0 | |
| Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$) | | | | | |
| 925,0 ... 960,0 | MHz | -10 | — | 10 | ° |
| Output amplitude balance ($ S_{31}/S_{21} $) | | | | | |
| 925,0 ... 960,0 | MHz | -1,0 | — | 1,0 | dB |
| Diff. to common mode suppression | S_{sc12} | | | | |
| 925,0 ... 960,0 | MHz | 20 | 25 | — | dB |
| 855,0 ... 995,0 | MHz | 20 | 25 | — | dB |
| 1710,0 ... 1990,0 | MHz | 20 | 54 | — | dB |
| 3420,0 ... 3980,0 | MHz | 20 | 40 | — | dB |
| Attenuation | α | | | | |
| 0,0 ... 850,0 | MHz | 50 | 59 | — | dB |
| 850,0 ... 905,0 | MHz | 35 | 47 | — | dB |
| 905,0 ... 915,0 | MHz | 18 | 30 | — | dB |
| 980,0 ... 1000,0 | MHz | 23 | 30 | — | dB |
| 1000,0 ... 1050,0 | MHz | 30 | 40 | — | dB |
| 1050,0 ... 2000,0 | MHz | 40 | 45 | — | dB |
| 2000,0 ... 3000,0 | MHz | 30 | 35 | — | dB |
| 3000,0 ... 4000,0 | MHz | 20 | 28 | — | dB |
| 4000,0 ... 6000,0 | MHz | 15 | 22 | — | dB |



Characteristics

Operating temperature range: $T = +10^{\circ}\text{C}$ to $+60^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 50 \Omega$ (balanced)

| | | min. | typ. | max. | |
|--|-----------------|------|-------|------|------------|
| Center frequency | f_C | — | 942,5 | — | MHz |
| Maximum insertion attenuation | α_{\max} | | | | |
| 925,0 ... 960,0 MHz | | — | 3,1 | 3,5 | dB |
| Amplitude ripple (p-p) | $\Delta\alpha$ | | | | |
| 925,0 ... 960,0 MHz | | — | 1,2 | 1,6 | dB |
| VSWR | | | | | |
| 925,0 ... 960,0 MHz | | — | 1,7 | 2,0 | |
| Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$) | | | | | |
| 925,0 ... 960,0 MHz | | -10 | — | 10 | $^{\circ}$ |
| Output amplitude balance (S_{31}/S_{21}) | | | | | |
| 925,0 ... 960,0 MHz | | -1,0 | — | 1,0 | dB |
| Diff. to common mode suppression | S_{sc12} | | | | |
| 925,0 ... 960,0 MHz | | 20 | 25 | — | dB |
| 855,0 ... 995,0 MHz | | 20 | 25 | — | dB |
| 1710,0 ... 1990,0 MHz | | 20 | 54 | — | dB |
| 3420,0 ... 3980,0 MHz | | 20 | 40 | — | dB |
| Attenuation | α | | | | |
| 0,0 ... 850,0 MHz | | 50 | 59 | — | dB |
| 850,0 ... 905,0 MHz | | 35 | 47 | — | dB |
| 905,0 ... 915,0 MHz | | 18 | 26 | — | dB |
| 980,0 ... 1000,0 MHz | | 20 | 31 | — | dB |
| 1000,0 ... 1050,0 MHz | | 30 | 40 | — | dB |
| 1050,0 ... 2000,0 MHz | | 40 | 45 | — | dB |
| 2000,0 ... 3000,0 MHz | | 30 | 35 | — | dB |
| 3000,0 ... 4000,0 MHz | | 20 | 28 | — | dB |
| 4000,0 ... 6000,0 MHz | | 15 | 22 | — | dB |



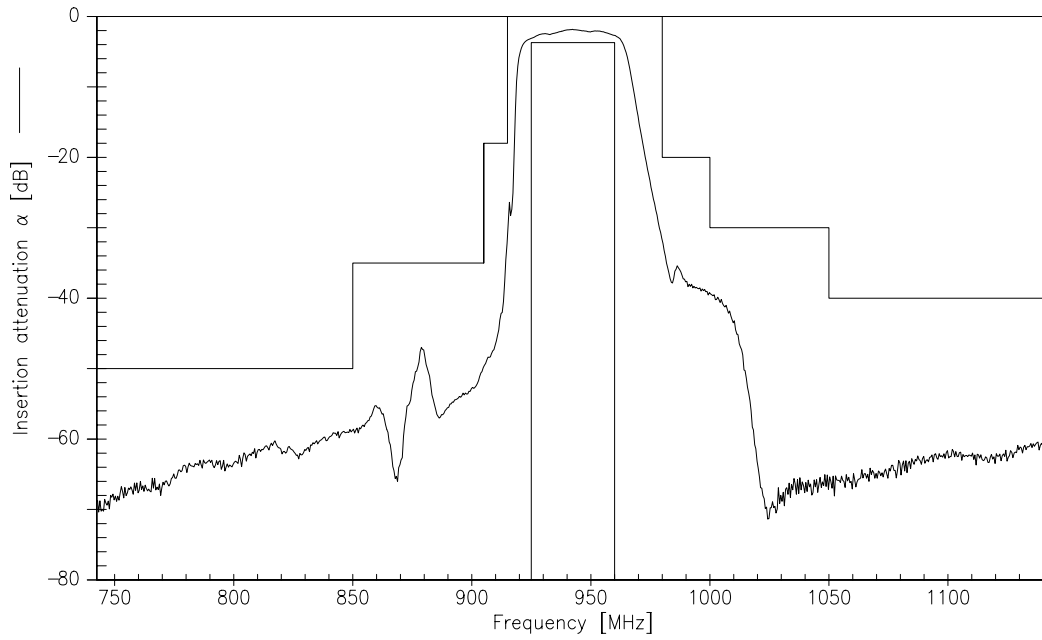
Characteristics

Operating temperature range: $T = -10^{\circ}\text{C}$ to $+80^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$ (balanced)

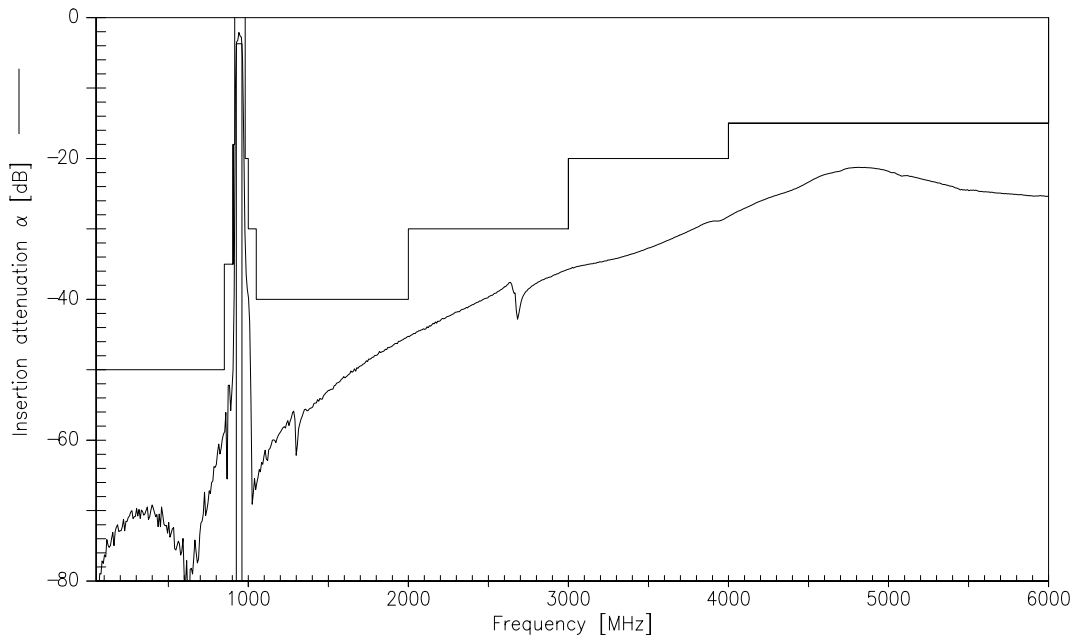
| | | min. | typ. | max. | |
|--|-----------------|------|-------|------|------------|
| Center frequency | f_C | — | 942,5 | — | MHz |
| Maximum insertion attenuation | α_{\max} | | | | |
| 925,0 ... 960,0 MHz | | — | 3,2 | 3,7 | dB |
| Amplitude ripple (p-p) | $\Delta\alpha$ | | | | |
| 925,0 ... 960,0 MHz | | — | 1,2 | 2,0 | dB |
| VSWR | | | | | |
| 925,0 ... 960,0 MHz | | — | 1,7 | 2,0 | |
| Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$) | | | | | |
| 925,0 ... 960,0 MHz | | -10 | — | 10 | $^{\circ}$ |
| Output amplitude balance (S_{31}/S_{21}) | | | | | |
| 925,0 ... 960,0 MHz | | -1,0 | — | 1,0 | dB |
| Diff. to common mode suppression | S_{sc12} | | | | |
| 925,0 ... 960,0 MHz | | 20 | 25 | — | dB |
| 855,0 ... 995,0 MHz | | 20 | 25 | — | dB |
| 1710,0 ... 1990,0 MHz | | 20 | 54 | — | dB |
| 3420,0 ... 3980,0 MHz | | 20 | 40 | — | dB |
| Attenuation | α | | | | |
| 0,0 ... 850,0 MHz | | 50 | 59 | — | dB |
| 850,0 ... 905,0 MHz | | 35 | 47 | — | dB |
| 905,0 ... 915,0 MHz | | 18 | 26 | — | dB |
| 980,0 ... 1000,0 MHz | | 20 | 29 | — | dB |
| 1000,0 ... 1050,0 MHz | | 30 | 40 | — | dB |
| 1050,0 ... 2000,0 MHz | | 40 | 45 | — | dB |
| 2000,0 ... 3000,0 MHz | | 30 | 35 | — | dB |
| 3000,0 ... 4000,0 MHz | | 20 | 28 | — | dB |
| 4000,0 ... 6000,0 MHz | | 15 | 22 | — | dB |



Transfer function (measurement)

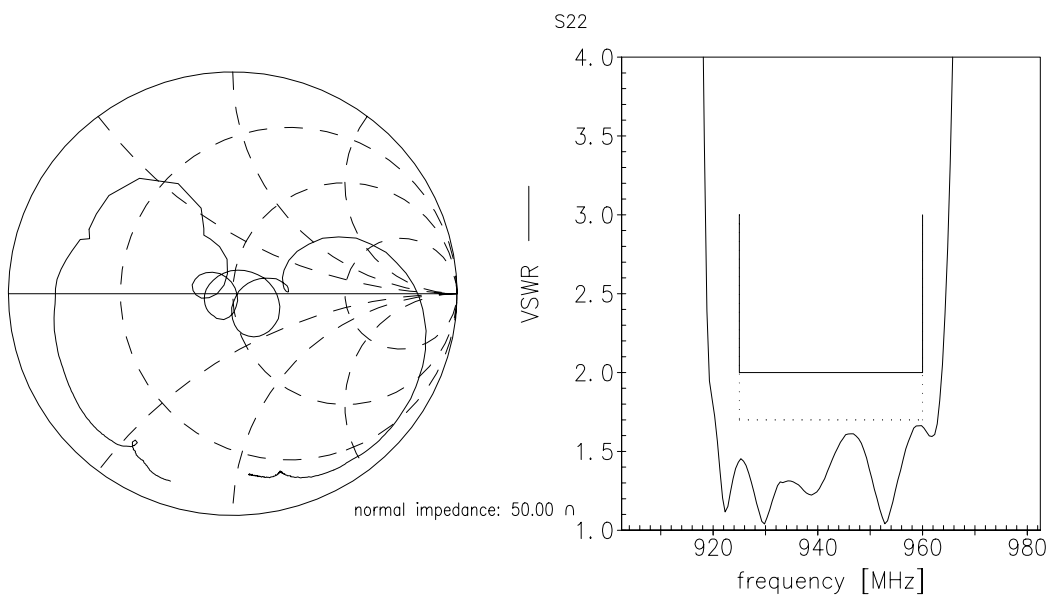
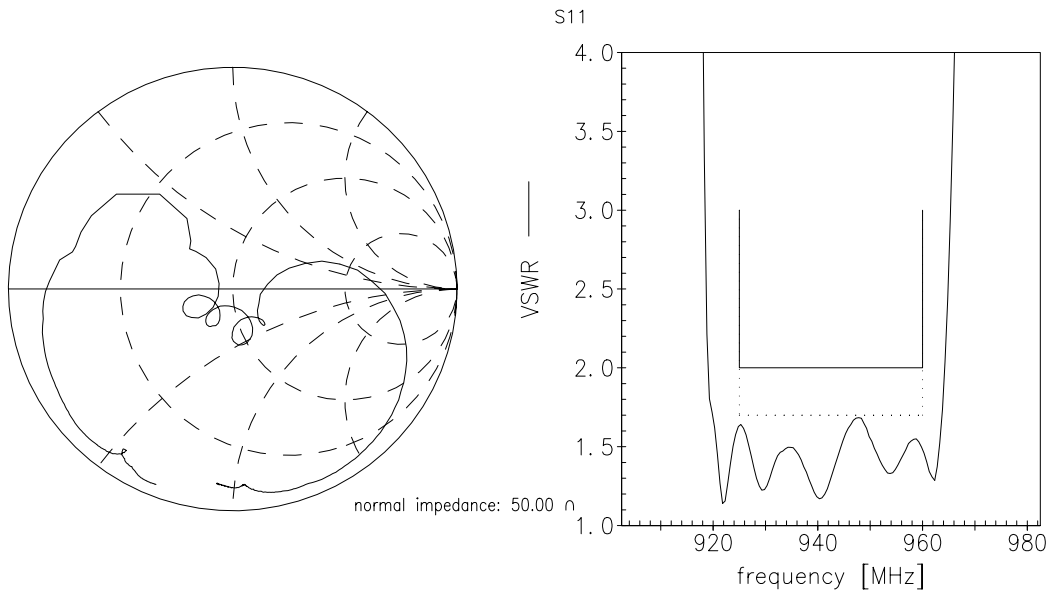


Transfer function (wideband measurement)





Matching (measurement)





SAW Components

B7710

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC WT

P.O. Box 80 17 09, D-81617 München

© EPCOS AG 2000. All Rights Reserved. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

The information contained in this brochure describes the type of component and shall not be considered as guaranteed characteristics. Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.